TRANSITION TO LOW CARBON ECONOMY THROUGH CARBON DIOXIDE EMISSION REDUCTION IN POWER GENERATION SECTOR IN MALAYSIA

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The economy growth is always the attention focal point to all country. However, the economy growth impacts the protecting environment and vice-versa. The contradiction between the environment and the development of economy are getting more serious. The low carbon economy should be one of the future choice for sustainable development. This study attempts to examine the reduction of carbon dioxide (CO2) emission through different scenarios of economic growth and renewable energy mixed. There are three scenarios developed, namely Business-As-Usual (BAU), Ambitious 1 (AMB 1) and Ambitious 2 (AMB 2). Scenario analysis method and Long-range Energy Alternatives Planning System (LEAP) model were employed in this study. The results show AMB 1 was the most ideal scenario to strike the balance between economic development and environmental sustainability. It is recommended that power generation sector should opt for more renewable energy such as biomass, solar pv and small hydropower. In addition, integration between government agency, suppliers' and consumers' were needed to achieve Malaysia's commitment to reduce carbon emission.

This research was supported by Special Grant scheme, Malaysia Sarawak through research grant No. F01/SpGS/1415/16/16